

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
19 July 2001 (19.07.2001)

PCT

(10) International Publication Number  
**WO 01/52517 A1**

(51) International Patent Classification<sup>7</sup>: H04M 11/04,  
G08B 25/10

Björn [SE/SE]; Själagårdsgatan 8A, S-111 31 Stockholm  
(SE).

(21) International Application Number: PCT/SE00/02694

(74) Agent: EHRNER & DELMAR PATENTBYRÅ AB;  
Box 103 16, Gumshornsgatan 7, S-100 55 Stockholm (SE).

(22) International Filing Date:

29 December 2000 (29.12.2000)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AT  
(utility model), AU, AZ, BA, BB, BG, BR, BY, BZ, CA,  
CH, CN, CR, CU, CZ, CZ (utility model), DE, DE (utility  
model), DK, DK (utility model), DM, DZ, EE, EE (utility  
model), ES, FI, FI (utility model), GB, GD, GE, GH, GM,  
HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,  
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,  
MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK  
(utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,  
VN, YU, ZA, ZW.

(25) Filing Language: Swedish

(26) Publication Language: English

(30) Priority Data:  
9904865-4 30 December 1999 (30.12.1999) SE

(71) Applicant (*for all designated States except US*): SAT-  
SAFE MLS AB [SE/SE]; Box 27165, S-102 52 Stockholm  
(SE).

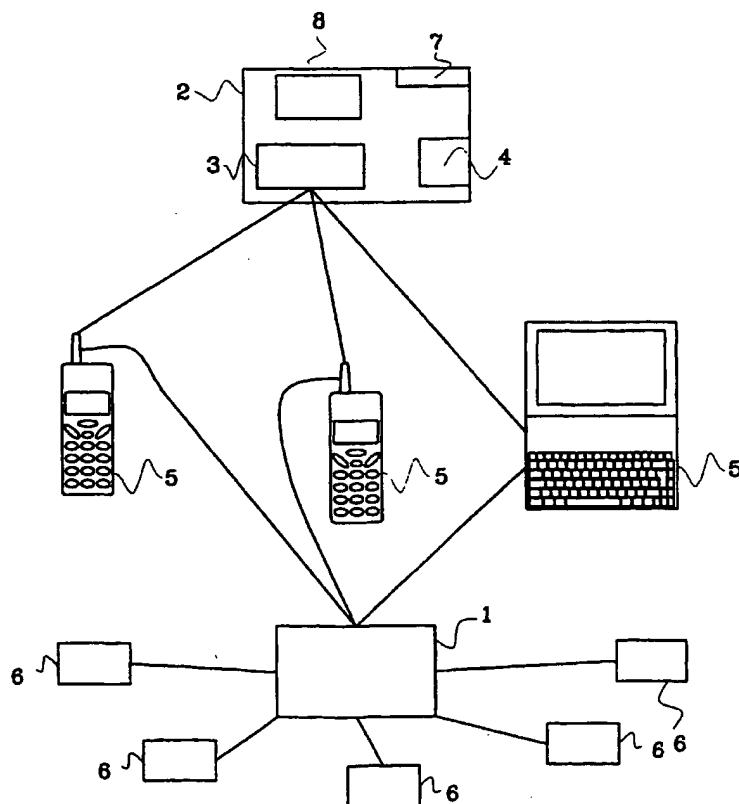
(72) Inventor; and

(75) Inventor/Applicant (*for US only*): DE BONNENFANT,

(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian  
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European

[Continued on next page]

(54) Title: COMMUNICATION INDEPENDENT IDENTIFICATION UNIT



(57) Abstract: A communication independent identification unit (2), provided with a unique identity code (7) and including an activation device (4) and a transmitter (3) arranged to transmit information when the activation device (4) is activated, the information include at least the identity code (7) of the unit (2), the activation type and the final destination of the information. The transmitter (3) is capable of transmitting information over short distances to a long distance communication link (5), and is arranged to control the long distance communication link (5) to forward the information to its final destination. The unit (2) may further include a GPS receiver.

WO 01/52517 A1

WO 01/52517 A1



patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

— *with international search report*

## Communication independent identification unit

### Technical field

The present invention relates to a communication independent identification unit according to the preamble of claim 1, a  
5 system including a such unit and a method for using a such unit.

### Background of the invention

Units that may send alarms or other information regarding the position or need of the units bearer to a central unit via  
10 some communication link, when the bearer manually activates an alarm button, or when a detector automatically trigs an alarm dependent on the condition of the bearer are commercially available. The alarm function may, as an example, comprise of an actual alarm that activates manually of the bearer or of  
15 some type of detecting system that monitors the physical condition of the bearer, for instance the pulse of a bearer with a heart condition may be monitored and an alarm is triggered when the bearer shows symptom of an emergency state of illness. The alarm function may also be used for other  
20 purposes than to indicate an alarm for assault, attempted robbery or emergency illness, e.g. such as to indicate the identity of the bearer via the unit to, in this way, activate opening of doors, locking or unlocking of doors or the like.

The characterising feature of all these devices is that the  
25 alarm function is transmitted from the unit via a long distance communication unit included in the device or connected to the device. The information will not reach the destination if the communication unit is out of order when the alarm is activated. Long distance communication units, e.g.  
30 GSM telephones tends to consume more effect than simpler units

for communication over short ranges, e.g. such as Blue Tooth transmitters or transmitters using WAP. Further, they are heavier, larger and more expensive. A method for reducing the risk that the alarm does not reach the destination is to  
5 connect several long distance communication links to secure that at least one operates at each alarm occasion , further resulting in increased total power consumption, weight and volume.

#### Summary of the invention

10 It is an object with the present invention to provide a system, a unit and a method, in which the disadvantage that the unit has to carry a comparatively heavy, expensive and power consuming long distance communication unit is avoided. It is furthermore an object of the invention to provide a  
15 system, a unit and a method, in which the alarm may reach a central unit via one out of several long distance units being within range of a short distance communication unit, resulting in an increased security. This and other objects are achieved by a system, a unit and a method according to the  
20 characterising portions of the independent claims. In this one or several of the below mentioned advantageous properties or functions are achieved.

According to the invention an unit is provided that manually or automatically may be activated to send an alarm to a  
25 central unit via a long distance communication unit within the range of a short distance communication unit included in the unit.

According to another aspect of the invention an unit is provided including a device that may state the location of the  
30 unit and pass on this information to a central unit to give

the receiver of the alarm further information regarding the position of the bearer.

According to the invention a system is further provided that helps the bearer of a unit to identify him self electronically to in that way activate door opening, locking/unlocking of doors or the like.

#### **Brief description of drawings**

Fig. 1 shows a schematic picture over the total system

#### **Description of preferred embodiments**

10 Figure 1 schematically shows the whole system comprises at least one mobile unit 2, the central unit 1 and customer units 6. Further it is shown how the mobile unit 2 comprises a transmitter 3 and an activating unit 4 and how each mobile unit 2 is provided with an identification number 7.

15 The information from the transmitter is transferred with some kind of protocol for short distance communication between a pair of transmitter/receiver in a group of several transmitters and receivers, that may communicate with each other. The protocol may for example be Bluetooth, Wireless

20 Application Protocol (WAP) or IrDA. The transmitter will, when activated by an alarm or other request for information transmittal, search for a receiver within range for the transmitter and request that the unit forwards the information to the central unit 1. In the case when it concerns an alarm,

25 such as an assault alarm or an alarm indicating that the bearer has an emergency state of illness, that information sent to the receiving unit include a request of forwarding the information to the central unit. The information may, in the case when the receiver is a GSM telephone, be transmitted via

30 radio communication to a central unit and in the case when the

receiver is a computer connected to internet, be transmitted via internet to the central unit. The central unit 1 stores the received information for each object and may forward it to a customer unit 6, or the central unit 6 may be placed at the customer and thus be the only customer unit.

The alarm may be triggered in numerous ways for optimised reliability and security. In the simplest embodiment, the communication unit 2 is provided with a unit for manual initiation of an alarm, e.g. implemented as simple as a switch, or in combination of two switches that have to be activated at the same time to trigger an alarm. In a more advanced embodiment, a unit that monitors the bearer and automatically triggers an alarm is present if some measurement parameter goes outside a predetermined interval. Parameters that the unit may monitor is the pulse frequency, blood pressure and sugar content in the blood. The unit may be provided with an annulment button, to prevent erroneously triggered automatic alarms as far as possible, and the alarm is transmitted only if the alarm has not been annulled by the bearer within a certain time.

The communication independent identification unit may furthermore be provided with a device for calculating of the position of the unit, e.g. a GPS receiver. When an alarm is triggered, information regarding the geographical position of the unit is also transmitted to the central unit, that makes it easier for an ambulance or the police to find the bearer of the unit.

The information from the unit may be transmitted by short distance communication to some control device to open a door, without linking the information further to a central unit 1. In the case when the request concerns control of a control

device, the receiving unit make sure that the request is performed if the identity of the bearer gives the bearer the right to request, for instance, opening of a door.

5 Even though the invention has been described in connection to a preferred embodiment it should be understood that several modifications may be performed without departing from the scope of the invention.

**Claims**

1. A communication independent identification unit (2) being provided with a unique identification code (7) and the unit (2) including an activation device (4) and a transmitter (3) arranged to transmit information when the activation device (4) is activated, the information including at least the identity code (7) of the unit (2), type of activation and the final destination of the information, **characterised in**
  - that the transmitter (3) is capable of transmitting information over short distances to a long distance communication link (5), and
  - that the transmitter (3) is arranged to control the long distance communication link (5) to forward the information to the final destination.
2. The unit according to claim 1, wherein the transmitter (3) is a Bluetooth transmitter.
3. The unit according to claim 1, wherein the transmitter (3) is a IrDA transmitter.
4. The unit according to any of claims 1-3, wherein the transmitter (3) is a transmitter using Wireless Application Protocol.
5. The unit according to any of claims 1-4, wherein the mobile unit (2) include a receiver (8) of signals from at least three satellites, arranged that from these signals calculate the position of the mobile unit, and the transmitter (3) is arranged to transmit information regarding the position of the unit (2).
6. The unit according to claim 5, wherein said receiver (4) is a GPS receiver.



7. The unit according to any of the preceding claims,  
wherein the transmitter (3) is capable of transmitting  
information of the identity code (7) of the unit (2) over  
short distances to a final destination, for activation of  
5 automatic.

8. The unit according to any of the preceding claims,  
wherein the activation device (4) include an alarm unit that  
is automatically activated of a detecting system.

9. The unit according to claim 8, wherein the activation  
10 device (4) is activated when the automatic alarm activation is  
not deactivated manually.

10. The unit according to any of the preceding claims,  
wherein the activation device (4) include a manually activated  
alarm unit.

15 11. A system including the unit (2) according to any of the  
preceding claims, and at least one central unit (1).

12. A method for transferring information including an  
identity code (7), activity and final destination for the  
information from a communication independent identification  
20 unit (2) provided with a unique identity code (7) to a final  
destination, the unit (2) including an activation device (4)  
and a transmitter (3), said method including the following  
step:

- activation of the activation device (4)

25 **characterised in** that the method include the further steps:

- the transmitter (3) searching for a long distance  
communication unit (5), that is within the range for the  
transmitter,

- the transmitter transfer information to the long distance communication unit (5) regarding the identity code of the unit and the destination of the information, and
- instructing the long distance communication unit (5) to transfer the information to the destination.

13. The method according to claim 12, wherein the alarm function is activated manually.
14. The method according to claim 12, wherein the alarm function is activated when an automatic alarm activation is not deactivated manually.
15. The method according to any of claims 12-14, wherein the transmitter (3) is capable to transmit information regarding the identity code (7) of the unit (2) over short distances to a final destination, for activation of automatic.
16. The method according to any of claims 12-15, wherein the unit (2) further transmits information regarding its position provided from a unit for receiving signals from at least three satellites, from which signals the position of the unit (2) may be calculated.

1/1

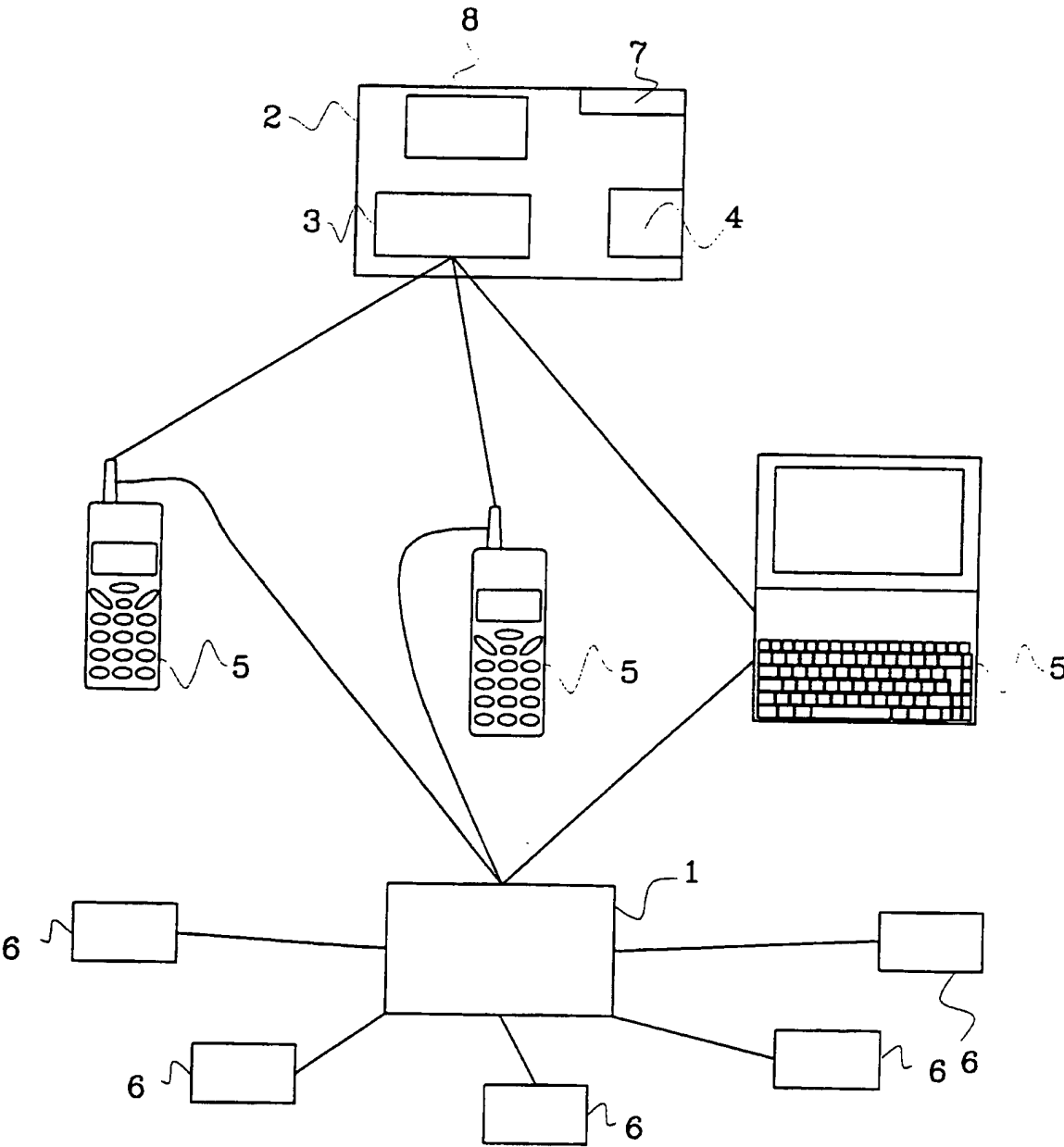


Fig. 1

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 00/02694

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H04M 11/04, G08B 25/10

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: H04M, G08B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GB 2229302 A (ADVANCED TECHNOLOGY INDUSTRIES LTD), 19 Sept 1990 (19.09.90), page 1, line 15 - page 2, line 21; page 5, line 5 - line 21 --	1-16
Y	US 4998095 A (NEAL G. SHIELDS), 5 March 1991 (05.03.91), column 2, line 5 - line 40 --	1-16
Y	GB 2294839 A (CHRISTOPHER JOHN GILL), 8 May 1996 (08.05.96), page 3, line 1 - page 4, line 8 --	1-16
Y	US 5838237 A (GRAEME CHARLES REVELL ET AL), 17 November 1998 (17.11.98), column 2, line 21 - column 3, line 30 --	1-16



Further documents are listed in the continuation of Box C.



See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

5 March 2001

Date of mailing of the international search report

06-04-2001

Name and mailing address of the ISA/

Swedish Patent Office

Box 5055, S-102 42 STOCKHOLM

Facsimile No. +46 8 666 02 86

Authorized officer

Gordana Ninkovic/MN

Telephone No. +46 8 782 25 00

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 00/02694

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 11088546 A (NEC CORP)1999-03-30(abstract) World Patents Index (online). London, U.K.: Derwent Publications, Ltd. (retrieved on 2001-03-02). Retrieved from: EPO WPI Database, DW 199923, Accession No 1999-274475 & JP 11088546 A (NEC CORP) 1999-06-30 (abstract). (online)(retrieved on 2001-03-02). Retrieved from EPO PAJ Database. see abstract  --	1-16
A	US 4884132 A (JAMES A. MORRIS ET AL), 28 November 1989 (28.11.89), abstract  -- -----	1-16

# INTERNATIONAL SEARCH REPORT

Information on patent family members

05/02/01

International application No.

PCT/SE 00/02694

Patent document cited in search report			Publication date	Patent family member(s)	Publication date
GB	2229302	A	19/09/90	GB 8906213 D GB 9006158 D	00/00/00 00/00/00
US	4998095	A	05/03/91	NONE	
GB	2294839	A	08/05/96	GB 9422172 D	00/00/00
US	5838237	A	17/11/98	NONE	
US	4884132	A	28/11/89	NONE	